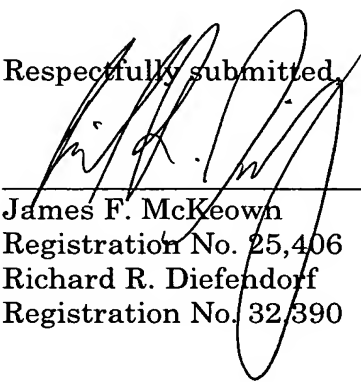


REMARKS

This preliminary amendment adds new claims incorporating amendments made during pendency of the international PCT application identified above and avoiding multiple claim dependencies.

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Respectfully submitted,



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< Attached >

1. (Amended) A turbo-compressor, comprising:

an inlet guide vane enabling to change a vane angle thereof;

a blow-off valve;

5 a suction condition detecting means for detecting at least one of temperature and suction pressure of a working gas sucked into said turbo-compressor; and

 a controlling means having a database relating to a minimum angle of said inlet guide vane with respect to the suction condition,
10 wherein said controller means determines the minimum angle by referring to said database, and also renews the database depending upon detection of surging of said turbo-compressor.

2. (Amended) A turbo-compressor, comprising:

an inlet guide vane enabling to change a vane angle thereof;

15 a main body of a turbo-compressor;

 a discharge pressure detecting means for detecting discharge pressure of said turbo-compressor;

 a check valve being positioned at a side of said turbo-compressor main body than said discharge pressure detecting
20 means;

 a blow-off valve for blowing off a gas compressed within said turbo-compressor;

 a suction condition detecting means being positioned in an upstream side of said inlet guide vane, for detecting at least
25 one of temperature and suction pressure of a working gas sucked into said turbo-compressor; and

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a regulator for controlling an angle of said inlet guide vane and opening/closing of said blow-off valve, and further comprising,

5 a surging detecting means being provided between said check valve and said turbo-compressor main body, and

a database being provided within said regulator for describing therein a relationship between a suction condition and a minimum inlet guide vane angle with respect to a target pressure, respectively, wherein said regulator means determines the minimum angle by referring to said database, and also renews the database
10 when said surging detection means detects surging.

3. The turbo-compressor, as described in the claim 2, wherein said regulating means renews data of the minimum inlet guide vane angle within said database when said surging detecting means
15 detects a surging.

4. The turbo-compressor, as described in the claim 2 or 3, further comprising a higher controller for controlling said regulating means.

5. (Amended) An operation method of a turbo-compressor,
20 for controlling discharge pressure of said turbo-compressor with using an inlet guide vane and a blow-off valve, comprising the following steps of:

detecting a value through a temperature detecting means or a pressure detecting means;

25 obtaining a minimum inlet guide vane angle at that detection value by referring to data of the minimum inlet guide vane angle, which are memorized in a regulator equipped with said compressor, upon basis of said detection value; [and]

driving said inlet guide vane at that minimum angle or greater
30 than that through a vane driver; and

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renewing the data of inlet guide vane angle when surging
generates.

6. The operation method of a turbo-compressor, as described
in the claim 5, wherein said data of the inlet guide vane angle
5 is renewed while opening the inlet guide vane by a predetermined
amount when a surging generates within said turbo-compressor.

7. The operation method of a turbo-compressor, as described
in the claim 5, wherein a characteristic of the discharge pressure
of the compressor to the suction flow rate is memorized into the
10 regulator, and when the inlet guide vane angle which is obtained
from said characteristic upon changing of said suction flow amount
comes down to be smaller than the minimum inlet guide vane angle,
the inlet guide vane is set at the minimum inlet guide vane angle
while opening the blow-off valve.

15 8. The operation method of a turbo-compressor, as described
in the claim 5, wherein a deviation of a vane angle is obtained
when the discharge pressure is higher than a target discharge
pressure, and when the vane angle added with the deviation comes
down to be equal or less than the minimum inlet guide vane angle,
20 the inlet guide vane is set at the minimum inlet guide vane angle
while opening the blow-off valve.

9. The operation method of a turbo-compressor, as described
in the claim 5, wherein the compressor is shifted into a non-load
operation condition by fully opening the inlet guide vane when
25 the discharge pressure is higher than a target discharge pressure
and the blow-off valve, and when this condition continues for a
predetermined time period, then the compressor is stopped on the
operation thereof.